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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------------|------------------|
| 10/768,341 | 01/30/2004 | Joel P. DeSouza | YOR920030639US1 (17341) | 6381 |
| 23389 | 7590 | 05/02/2006 | EXAMINER | |
| SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530 | | | FOURSON III, GEORGE R | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2823 | |

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/768,341

Applicant(s)

DESOUZA ET AL.

Examiner

George Fourson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/23/06 has been entered.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no description in the disclosure as originally filed of providing an SOI substrate that includes stoichiometric oxide uniformly distributed therein. Applicant points to instant [0011]. However, in that location there is insufficient indication that applicant achieves the recited stoichiometric oxide uniformly distributed. Instead it is disclosed there that the prior art was not designed to create a stoichiometric oxide in region (ii) and that recently the need for a uniformly good BOX has been recognized.

If obtainment of stoichiometric oxide uniformly distributed therein is inherent in the disclosed process of the instant invention applicant should make this clear in response.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadana et al 5,930,643.

If obtainment of stoichiometric oxide uniformly distributed therein is inherent in the disclosed process of the instant invention then the same result would be obtained by the process suggested by Sadana et al because the same materials are treated in the same manner as in the instant invention.

Sadana et al discloses the steps:

- a) masked, base implantation of oxygen ions with a dose greater than $5 \times 10^{16} \text{ cm}^{-2}$, preferably $2 - 5 \times 10^{17} \text{ cm}^{-2}$, ion beam current of 5-60 mA, energy of 30-400 keV at temperature greater than 200°C ;
- b) room temperature implantation of oxygen ions with a dose of $1 \times 10^{14} - 1 \times 10^{16} \text{ cm}^{-2}$, energy of 50-200 keV, at a temperature less than 300°C , shallower than the base implant (col.4, lines 40-41);
- c) temperature ramp up and soaking at 1000°C for 5-120 min with an oxygen content of 0.1-10%, ramp up to $1300-1375^{\circ}\text{C}$ with oxygen content of 5-100% oxygen with the balance Ar or N_2 , selective removal of the surface oxide formed with HF (columns 4 and 5).

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With respect to claims 20 and 23, it would have been obvious to one of ordinary skill in the art to increase the temperature of the soak cycle to 1250°C and the oxygen content to greater than 30% with the expectation that a portion of the effect of the oxidation step would be accomplished in view of the disclosure that the soak cycle is optional. Further, see col.7, line 12 where 100% O₂ content in the soak cycle is disclosed. With respect to the remaining claims, there is overlap between the recited conditions and those disclosed and pointed to above.

With respect to claims 7 and 8, the room temperature ion implantation step could be labeled as multiple steps.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Hovel et al '106 [0042-0043], Hovel et al '846 [0042, 0052], Bedell et al '487 [0082-0084, 0086],

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Fourson whose telephone number is (571)272-1860/272-1860. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith, can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "George Fourson". The signature is stylized with a large, looped "G" and a cursive "Fourson".

George Fourson
Primary Examiner
Art Unit 2823

GFourson
April 27, 2006